

UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
AGRICULTURE

Q.630.7
 1866
 no. 229
 p. 5

1868

CIRCULATING COPY
 AGRICULTURE LIBRARY

UNIVERSITY OF ILLINOIS Agricultural Experiment Station

URBANA, SEPTEMBER, 1918

CIRCULAR No. 229

Illinois Wheat Yields With Nature's Fertilizers

BY CYRIL G. HOPKINS, CHIEF IN AGRONOMY AND CHEMISTRY; J. E. WHITCHURCH,
 F. W. GARRETT, H. F. T. FAHRNKOPF, H. C. GILKERSON, AND H. J. SNIDER
 ASSOCIATES IN SOIL FERTILITY; AND E. E. GLICK, ASSISTANT

NOTE.—The results reported with no soil treatment in Tables 1 and 2 are the averages of three trials on each field, except at West Salem, where there is only one trial on untreated land, and at Galesburg, where there are four trials with some limestone applied.

TABLE 1.—TEN WHEAT FIELDS IN "EGYPT"

(Bushels per acre, 1918)

Soil treatment	En-field field	Ewing field	New-ton field	Ob-long field	Pana field	Ra-leigh field	Sparta field	To-le-do field	Union-ville field	West Salem field	Aver-age
Began Full ¹ .	1913 1915	1910 1914	1912 1913	1912 1914	1913 1915	1910 1914	1916 1920	1913 1915	1911 1915	1913 1914	
None.	8.4	3.1	.1	8.8	7.7	10.9	4.7	6.4	12.2	.0	6.2
M....	6.3	5.4	.3	15.8	3.2	14.6	7.7	7.8	14.2	4.5 ²	8.0
ML...	12.3	16.5	9.8	22.7	6.2	25.9	12.3	14.2	23.3	8.1	15.1
MLP.	17.0	21.1	17.7	33.4	11.2	29.3	15.3	16.2	24.9	11.0	19.7
R....	9.6	1.5	.3	13.2	10.4	12.8	5.2	7.4	13.3	7.3 ²	8.1
RL...	19.3	12.9	10.8	30.5	14.5	22.3	13.2	14.6	22.5	7.2	16.8
RLP.	22.9	18.5	16.7	36.1	19.7	27.3	13.0	10.2	26.2	12.5	20.3
RLPK	23.9	21.4	17.7	38.8	15.8	24.9	16.7	16.7	26.1	18.2	22.0

¹After soil treatment is begun about one crop rotation is usually required to get the full treatment underway.

²Some limestone also was applied to these two plots at West Salem.

TABLE 2.—FOURTEEN WHEAT FIELDS IN THE ILLINOIS CORN BELT

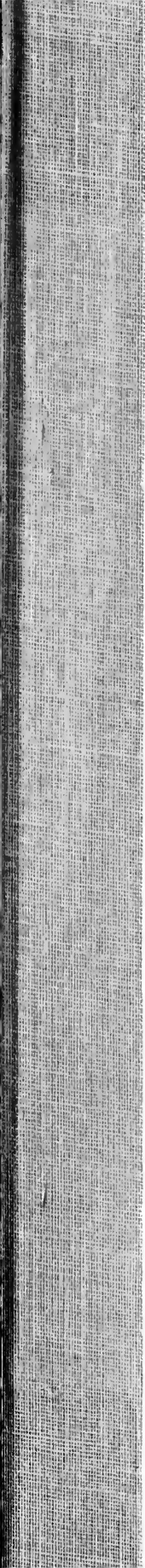
(Bushels per acre, 1918)

Soil treatment	Ale-do field	Carlin-ville field	Car-thage field	Clay-ton field	Gales-burg field	Harts-burg field	Jo-liet field	Kewa-nee field	La-Moille field	Leba-non field	Mi-nonk field	Mt. Morris field	Si-dell field	Spring Valley field	Av-erage
Began.....	1911	1910	1912	1912	1904	1912	1914	1915	1911	1911	1911	1911	1913	1915	
Full.....	1915	1911	1915	1915	1908	1915	1915	1919	1915	1914	1915	1915	1915	1919	
None.....	31.6	32.6	26.8	30.6	25.7	34.5	20.9	29.2	32.6	32.5	33.9	16.4	10.8	51.1	29.2
M.....	32.2	36.3	28.6	30.2	38.2	37.3	21.5	34.6	40.8	26.4	45.0	22.5	13.2	46.0	32.3
ML.....	34.5	48.0	37.6	42.8	38.2	39.5	31.0	26.7	43.1	28.6	33.7	25.6	12.2	51.0	35.5
MLP.....	39.2	48.5	42.0	47.0	44.3	44.2	39.9	32.5	42.3	37.0	34.2	28.4	19.2	50.3	39.2
R.....	35.7	34.8	35.2	33.7	35.2	37.3	28.8	41.0	52.8	33.2	34.8	20.9	9.2	55.0	34.8
RL.....	38.6	43.4	39.1	45.5	32.6	34.1	27.0	40.1	53.0	37.8	28.2	24.0	14.3	56.3	36.7
RLP.....	43.7	47.3	44.8	50.8	49.5	42.5	35.4	46.0	53.7	41.9	32.0	25.8	19.8	57.2	42.2
RLPK.....	40.7	50.6	45.9	47.6	45.8	40.5	39.9	50.8	55.3	42.2	31.0	26.2	18.4	49.7	41.8

Some limestone applied.

NOTES.—These twenty-four experiment fields are operated by the University of Illinois. The rotation most commonly practiced is corn, oats, clover, and wheat. The farm manure (**M**) is usually applied for corn in proportion to previous crop yields. The crop residues (**R**) returned to the soil include corn stalks, straw, clover chaff, and cover crops (as sweet clover seeded on the wheat and plowed under before planting corn). Yearly acre-rates of application are 1,000 pounds of limestone (**L**), 500 pounds of fine-ground natural rock phosphate (**P**), and 200 pounds of kainit (**K**); or 4,000, 2,000, and 800 pounds, respectively, every four years. (The initial application of limestone is usually 4 tons per acre, and after four or five crop rotations the phosphate may be reduced to 200 pounds a year.)

Digitized by the Internet Archive
in 2011 with funding from
University of Illinois Urbana-Champaign



UNIVERSITY OF ILLINOIS-URBANA

Q. 630.71L6C

C005

CIRCULAR URBANA, ILL.

229 1918



3 0112 019535498